Technical Specifications:

A. 4-TRACK ULTRASONIC INSERTION FLOW METERS:

1. Applications: Suitable for a wide range of applications, including raw or potable water with chlorine content.
2. Accuracy: Improved accuracy to +0.5% flow reading or better
3. Velocity Range: Extended velocity range to 0.1 m/sec to 10m/Sec
4. Power Supply: Universal power compatibility (24 - 240 V DC/AC, 50 Hz) with surge arrestor.
5. Power Consumption: Reduced power consumption to less than 11 W/30 VA
6. Galvanic Isolation: Yes
7. Display Unit: Transmitter should have built-in full graphical High-resolution LCD display with minimum 6-line display to view the measuring parameters. Display should indicate real-time flow rate in m3/hr, totalized values, settings and faults and totalizer. Backlit display for easy reading in low-light conditions.
8. Sensor Protection: IP68 rated for protection against water and dust.
9. Transmitter Protection: IP67/NEMA 4X rated for durability in harsh environments,
10. Transmitter ambient Temperature: -40 ... +60 °C, Humidity maximum up to 95 % or better
11. Data Logger: Internal/external with flow meter for the storage of the process parameters.
12. The flowmeter/Transmitter should have CE marking.

B. FLOW SENSORS

1. Mounting: 4-track Hot-tapping Installation of sensors on pressurized a pipeline

2. Line Size: 1200 mm to 2700 mm.
3. Sensor Material: SS 316L/ Hastelloy-C / Titanium.
4. The sensors should be as per ISO standard lengths (ISO 13359) as applicable, so that inter changeability can be carried out. The sensors shall also have built in grounding and empty pipe detection facility.
5. Maintain or exceed IP68 standards for weather protection to ensure the sensors reliability and
6. Longevity in harsh environmental condition.
7. The flow sensor shall be installed using hot tapping method only.

C. FLOW TRANSMITTER / COMPUTATION

1. Mounting: Transmitter panel mounted outside the meter chamber in proper location.
2. Type: The transmitter should be equipped with a powerful microprocessor to support advanced
3. Data processing and communication capabilities utilizing a 4-wire system for data processing 4-20mA+ HART / Modbus communication. For high accurate & fast measurement, to avoid the longer cable runs and signal drop from the sensor, the bidder shall install any external digital module/processing system near to the measurement pipeline to process and convert the analog signals into digital signal.
4. Protection: IP 68.
5. Power Supply: For the entire diameter pipes (1200 mm to 2800 mm): Universal power compatibility (24 - 240 V DC/AC (50 / 60Hz) with surge arrestor and inbuilt rechargeable battery to provide backup for minimum 6 hours backup in the absence of grid supply.
6. Output: 4 - 20 mA + HART / Modbus RS485 communication. Digital and pulse outputs. Status outputs. Data logger output: Through RS 485 / Ethernet / Wi-Fi.

7. Unit of Display: M3 (Cubic Meter) / hour, MLD, ML (Programmable)
8. Enclosure Material: Stainless steel / Aluminum with Coating complies to corrosion Class C4
9. Flow Meter Standards: Testing and calibration - IS / ISO 17025. Meter Standard - ISO 4064. Calibration certificate from FCRI as per IS and ISO 17025 / Manufacturer Calibration Certificate from LAB source country approved by the regional body / Test Certificate & Manufacturer declaration certificate shall be provided. The details of the same shall be supplied in the technical offer for the evaluation.